

STATE OF UTAH
DIVISION OF WATER QUALITY
DEPARTMENT OF ENVIRONMENTAL QUALITY
SALT LAKE CITY, UTAH

UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) PERMITS

Minor Municipal Permit No. **UT0020931**

In compliance with provisions of the *Utah Water Quality Act, Title 19, Chapter 5, Utah Code Annotated ("UCA") 1953, as amended* (the "Act"),

CITY OF CORINNE

is hereby authorized to discharge from its wastewater treatment facility to receiving waters named

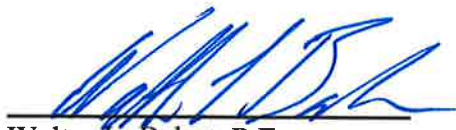
BEAR RIVER

in accordance with specific limitations, outfalls, and other conditions set forth herein.

This permit shall become effective on June 1, 2016.

This permit expires at midnight on May 31, 2021.

Signed this 6 day of May, 2016



Walter L. Baker, P.E.
Director

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PART I
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I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS

- A. Description of Discharge Points. The authorization to discharge wastewater provided under this part is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a UPDES permit are violations of the *Act* and may be subject to penalties under the *Act*. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge may be subject to criminal penalties as provided under the *Act*.

Outfall Number

001

Location of Discharge Outfall

The Corinne Wastewater Lagoon System is located approximately a half miles south of the City of Corinne on the west side of the Bear River. The discharge is from a twelve inch corrugated metal pipe discharging directly to the Bear River. Located at latitude 41° 32' 13" and longitude -112° 06' 41".

001D

This outfall is to a retention ditch for land disposal. Located at latitude 41° 32' 15" and longitude -112° 06' 42".

- B. Narrative Standard. It shall be unlawful, and a violation of this permit, for the permittee to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum, or other nuisances such as color, odor or taste, or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by a bioassay or other tests performed in accordance with standard procedures.

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C. Specific Limitations and Self-Monitoring Requirements for Surface Water Discharge.

1. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

Parameter	Effluent Limitations for Outfall 001 ¹			
	Maximum Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
Flow, mgd	0.07			
BOD ₅ , mg/L ²	25	35		
Total Suspended Solids (TSS) mg/L	25	35		
<i>E. coli</i> , No./100mL	126	158		
pH, Standard Units			6.5	9.0
Dissolved Oxygen, mg/L			4.0	

Influent Self-Monitoring and Reporting Requirements ¹			
Parameter	Frequency	Sample Type	Units
BOD ₅ ²	Monthly	Grab	mg/L
TSS ²	Monthly	Grab	mg/L
Total Phosphorus (as P)	Monthly	Composite ³	mg/L
Total Kjeldahl Nitrogen (as N)	Monthly	Composite ³	mg/L
Metals ⁴	Annual	Composite ³	mg/L
Organic Toxics ⁵	2 nd and 4 th year	Grab	mg/L

Effluent Self-Monitoring and Reporting Requirements ¹			
Parameter	Frequency	Sample Type	Units
Total Flow ²	Continuous	Recorder	mgd
BOD ₅ ²	Monthly	Grab	mg/L
TSS ²	Monthly	Grab	mg/L
<i>E. coli</i>	Monthly	Grab	No./100mL
pH	Monthly	Grab	SU
Dissolved Oxygen	Monthly	Grab	mg/L
Oil & Grease ⁶	Monthly	Grab	mg/L
Total Dissolved Solids	Monthly	Grab	mg/L
Total Phosphorus (as P)	Monthly	Composite ³	mg/L
Orthophosphate (as P)	Monthly	Composite ³	mg/L
Ammonia (as N)	Monthly	Composite ³	mg/L
Nitrate-Nitrite (as N)	Monthly	Composite ³	mg/L
Total Kjeldahl Nitrogen (as N)	Monthly	Composite ³	mg/L
Metals ⁴	Annual	Composite ³	mg/L
Organic Toxics ⁵	2nd and 4th year	Grab	mg/L

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1. See Definitions, *Part VI*, for definition of terms.
 2. Influent samples and the influent flow shall be monitored and measured at the same frequency as the effluent samples and the effluent flow.
 3. Composite samples shall be by use of an automatic sampler or minimum of four grab samples collected a minimum of two hours apart.
 4. As defined in *Part II.B.1.* of this Permit.
 5. The toxic pollutants are listed in *40 CFR 122 Appendix D Table II (Organic Toxic Pollutants)*.
 6. Sample only if a sheen is observed.
- D. Reporting of Surface Water Discharge Wastewater Monitoring Results. Monitoring results obtained during the previous month shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), post-marked no later than the 28th day of the month following the completed reporting period. The first report is due on **June 28, 2016**. If no discharge occurs during the reporting period, “no discharge” shall be reported. Legible copies of these, and all other reports including whole effluent toxicity (WET) test reports required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements (see Part V.G)*, and submitted to the Division of Water Quality at the following address:

Department of Environmental Quality
Division of Water Quality
195 North 1950 West
PO Box 144870
Salt Lake City, Utah 84114-4870

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E. Specific Limitations and Self-Monitoring Requirements for Land Disposal

1. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge effluent for Land Disposal from Outfall 001D. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Limitations for Type II Land Disposal at Outfall 001D ^{1,2}			
Parameter	Maximum Weekly Avg	Daily Minimum	Daily Maximum
BOD ₅ , mg/L	35		
Total Suspended Solids (TSS) mg/L	35		
<i>E. coli</i> , No./100mL	158		500
pH, Standard Units (SU)		6.5	9.0

Self-Monitoring and Reporting Requirements for Type II Land Disposal at Outfall 001D ^{1,2}			
Parameter	Frequency	Sample Type	Units
Applied Flow	Continuous	Recorder	mgd
Irrigated Acreage	Monthly	Estimated	acres
BOD ₅	Monthly	Grab	mg/L
TSS	Monthly	Grab	mg/L
<i>E. coli</i>	Monthly	Grab	No./100mL
pH	Monthly	Grab	SU
Total Inorganic Nitrogen	Monthly	Grab	mg/L

1. See Definitions, *Part VI*, for definition of terms.
2. Effluent shall only be disposed of by methods allowed by R317-3-11.5.A.

F. Management Practices for Land Disposal of Treated Effluent

1. The application of treated effluent to frozen, ice-covered, or snow covered land is prohibited.
2. No person shall apply treated effluent where the slope of the site exceeds 6 percent.
3. The use should not result in a surface water runoff except as authorized under I.C. of this permit.
4. The use must not result in the creation of an unhealthy or nuisance condition, as determined by the local health department.
5. Any irrigation with treated effluent must be at least 300 feet from a potable well.
6. Spray irrigation must be at least 100 feet from areas intended for public access. This distance may be reduced or increased by the Director.
7. Impoundments of treated effluent, if not sealed, must be at least 500 feet from any potable well.
8. Public access to effluent storage and irrigation or disposal sites shall be restricted by a stock-tight fence or other comparable means which shall be posted and controlled to exclude the public.

G. Annual Reporting of Land Disposal Monitoring Results

Monitoring results obtained during the previous year shall be summarized and submitted in an Annual Report by May 1st. The report shall include a tabular summary of the monthly minimum, average, and maximum values. This report may be submitted as a standalone report or as an inclusion in the facility's Municipal Wastewater Planning Program (MWPP). Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements (see Part V.G)*, and submitted to the Division of Water Quality at the following address:

Department of Environmental Quality
Division of Water Quality
PO Box 144870
Salt Lake City, Utah 84114-4870

II. INDUSTRIAL PRETREATMENT PROGRAM

A. Definitions.

For this section the following definitions shall apply:

1. Significant industrial user (SIU) is defined as an industrial user discharging to a publicly-owned treatment works (POTW) that satisfies any of the following:
 - a. Has a process wastewater flow of 25,000 gallons or more per average work day;
 - b. Has a flow greater than five percent of the flow carried by the municipal system receiving the waste;
 - c. Is subject to Categorical Pretreatment Standards, or
 - d. Has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.
2. Local Limit is defined as a limit designed to prevent pass through and/or interference. And is developed in accordance with 40 CFR 403.5(c).

B. Self-Monitoring and Reporting Requirements

1. Because the design capacity of this municipal wastewater treatment facility is less than 5 MGD, the permittee will not be required to develop a State-approved industrial pretreatment program at this time. However, in order to determine if development of an industrial pretreatment program is warranted, the permittee shall conduct an **industrial waste survey**, as described in *Part II.C.1*, and submit it to the Division of Water Quality within **sixty (60) calendar days** of the effective date of this permit and shall sample and analyze both the influent and effluent annually, for the following parameters.

Metals Monitoring for Pretreatment Program			
Parameter	Sample Type	Frequency	Units
Total Arsenic	Composite/Grab	Annual	mg/L
Total Cadmium			
Total Chromium			
Total Copper			
Total Cyanide			
Total Lead			
Total Mercury			
Total Molybdenum			
Total Nickel			
Total Selenium			
Total Silver			
Total Zinc			

The results of these analyses shall be submitted along with the Discharge Monitoring Report (DMR) at the end of that reporting period.

C. Industrial Waste Survey (IWS)

1. As required by *Part II.B.1.* the industrial waste survey consists of;
 - a. Identifying each industrial user (IU) and determining if the IU is a significant industrial user (SIU),
 - b. Determination of the qualitative and quantitative characteristics of each discharge, and
 - c. Appropriate production data.
2. The IWS must be maintained and updated with IU information as necessary, to ensure that all IUs are properly permitted and/or controlled at all times. Updates must be submitted to the Director sixty (60) days following a change to the IWS.
3. Evaluate all significant industrial users at least once every two years to determine if they need to develop a slug prevention plan. If a slug prevention plan is required, the permittee shall notify the Director.
4. Notify all significant industrial users of their obligation to comply with applicable requirements under *Subtitles C and D* of the *Resource Conservation and Recovery Act (RCRA)*.
5. The permittee must notify the Director of any new introductions by new or existing SIUs or any substantial change in pollutants from any major industrial source. Such notice must contain the information described in 1. above, and be forwarded no later than sixty (60) days following the introduction or change.

D. General and Specific Prohibitions

1. Pretreatment Standards (*40 CFR 403.5*) developed pursuant to *Section 307* of *The Water Quality Act of 1987* require that under no circumstances shall the permittee allow introduction of the following pollutants into the waste treatment system from any source of non-domestic discharge:
 - a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, wastestreams with a closed cup flashpoint of less than 140°F (60°C);
 - b. Pollutants, which will cause corrosive structural damage to the POTW, but in no case, discharges with a pH lower than 5.0;
 - c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference;

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- d. Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a discharge at such volume or strength as to cause interference in the POTW;
 - e. Heat in amounts, which will inhibit biological activity in the POTW, resulting in interference, but in no case, heat in such quantities that the influent to the sewage treatment works exceeds 104°F (40°C);
 - f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
 - g. Pollutants which result in the presence of toxic gases, vapor, or fumes within the POTW in a quantity that may cause worker health or safety problems; or,
 - h. Any trucked or hauled pollutants, except at discharge points designated by the POTW.
 - i. Any pollutant that causes pass through or interference at the POTW.
2. In addition to the general and specific limitations expressed above, more specific pretreatment limitations have been and will be promulgated for specific industrial categories under *Section 307 of the Water Quality Act of 1987 as amended (WQA)*. (See 40 CFR, Subchapter N, Parts 400 through 500, for specific information).

E. Signification Industrial Users Discharging to the POTW.

The permittee shall provide adequate notice to the Director and the Division of Water Quality Industrial Pretreatment Coordinator of;

- 1. Any new introduction of pollutants into the treatment works from an indirect discharger (i.e., industrial user) which would be subject to *Sections 301 or 306 of the WQA* if it were directly discharging those pollutants;
- 2. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit; and
- 3. For the purposes of this section, adequate notice shall include information on:
 - a. The quality and quantity of effluent to be introduced into such treatment works; and,
 - b. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from such publicly owned treatment works.
- 4. Any SIU that must comply with applicable requirements under *Subtitles C and D of the Resource Conservation and Recovery Act (RCRA)*.

F. Change of Conditions.

At such time as a specific pretreatment limitation becomes applicable to an industrial user of the permittee, the Director may, as appropriate, do the following:

1. Amend the permittee's UPDES discharge permit to specify the additional pollutant(s) and corresponding effluent limitation(s) consistent with the applicable national pretreatment limitation;
2. Require the permittee to specify, by ordinance, contract, or other enforceable means, the type of pollutant(s) and the maximum amount which may be discharged to the permittee's facility for treatment. Such requirement shall be imposed in a manner consistent with the POTW program development requirements of the *General Pretreatment Regulations* at 40 CFR 403;
3. Require the permittee to monitor its discharge for any pollutant, which may likely be discharged from the permittee's facility, should the industrial user fail to properly pretreat its waste; and/or,
4. Require the permittee to develop an approved pretreatment program.

G. Legal Action.

The Director retains, at all times, the right to take legal action against the industrial user and/or the treatment works, in those cases where a permit violation has occurred because of the failure of an industrial user to discharge at an acceptable level. If the permittee has failed to properly delineate maximum acceptable industrial contributor levels, the Director will look primarily to the permittee as the responsible party.

H. Local Limits

If local limits are developed per R317-8-8.5(4)(b) to protect the POTW from pass-through or interference, then the POTW must submit limits to DWQ for review and public notice, as required by R317-8-8.5(4)(c).

III. MONITORING, RECORDING & GENERAL REPORTING REQUIREMENTS

- A. Representative Sampling. Samples taken in compliance with the monitoring requirements established under *Part I* shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Samples of biosolids shall be collected at a location representative of the quality of biosolids immediately prior to the use-disposal practice.
- B. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under *Utah Administrative Code ("UAC") R317-2-10 and 40CFR Part 503*, unless other test procedures have been specified in this permit.
- C. Penalties for Tampering. The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.
- D. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.
- E. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under *UAC R317-2-10 and 40 CFR 503* or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or the Biosolids Report Form. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.
- F. Records Contents. Records of monitoring information shall include:
1. The date, exact place, and time of sampling or measurements;
 2. The individual(s) who performed the sampling or measurements;
 3. The date(s) and time(s) analyses were performed;
 4. The individual(s) who performed the analyses;
 5. The analytical techniques or methods used; and,
 6. The results of such analyses.
- G. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location

H. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance including transportation accidents, spills, and uncontrolled runoff from biosolids transfer or land application sites which may seriously endanger health or environment, as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality, (801) 536-4300, or 24-hour answering service (801) 536-4123.
2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4300 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:
 - a. Any noncompliance which may endanger health or the environment;
 - b. Any unanticipated bypass, which exceeds any effluent limitation in the permit (See *Part IV.G, Bypass of Treatment Facilities.*);
 - c. Any upset which exceeds any effluent limitation in the permit (See *Part IV.H, Upset Conditions.*);
 - d. Violation of a maximum daily discharge limitation for any of the pollutants listed in the permit; or,
 - e. Violation of any of the Table 3 metals limits, the pathogen limits, the vector attraction reduction limits or the management practices for biosolids that have been sold or given away.
3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected;
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and,
 - e. Steps taken, if any, to mitigate the adverse impacts on the environment and human health during the noncompliance period.
4. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Division of Water Quality, (801) 536-4300.

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5. Reports shall be submitted to the addresses in *Part I.D, Reporting of Monitoring Results*.
- I. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for *Part I.D* are submitted. The reports shall contain the information listed in *Part III.H.3*
- J. Inspection and Entry The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:
 1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, including but not limited to, biosolids treatment, collection, storage facilities or area, transport vehicles and containers, and land application sites;
 4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the *Act*, any substances or parameters at any location, including, but not limited to, digested biosolids before dewatering, dewatered biosolids, biosolids transfer or staging areas, any ground or surface waters at the land application sites or biosolids, soils, or vegetation on the land application sites; and,
 5. The permittee shall make the necessary arrangements with the landowner or leaseholder to obtain permission or clearance, the Director, or authorized representative, upon the presentation of credentials and other documents as may be required by law, will be permitted to enter without delay for the purposes of performing their responsibilities.

IV. COMPLIANCE RESPONSIBILITIES

- A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.
- B. Penalties for Violations of Permit Conditions. The Act provides that any person who violates a permit condition implementing provisions of the Act is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions or the Act is subject to a fine not exceeding \$25,000 per day of violation. Any person convicted under *UCA 19-5-115(2)* a second time shall be punished by a fine not exceeding \$50,000 per day. Except as provided at *Part IV.G, Bypass of Treatment Facilities* and *Part IV.H, Upset Conditions*, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.
- C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment. The permittee shall also take all reasonable steps to minimize or prevent any land application in violation of this permit.
- E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- F. Removed Substances. Collected screening, grit, solids, sludge, or other pollutants removed in the course of treatment shall be disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash shall not directly enter either the final effluent or waters of the state by any other direct route.

G. Bypass of Treatment Facilities.

1. Bypass Not Exceeding Limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to paragraph 2 and 3 of this section.
2. Prohibition of Bypass.
 - a. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:
 - (1) Bypass was unavoidable to prevent loss of human life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and
 - (3) The permittee submitted notices as required under *section IV.G.3.*
 - b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in *sections IV.G.2.a (1), (2) and (3).*
3. Notice.
 - a. *Anticipated bypass.* Except as provided above in *section IV.G.2* and below in *section IV.G.3.b*, if the permittee knows in advance of the need for a bypass, it shall submit prior notice, at least ninety days before the date of bypass. The prior notice shall include the following unless otherwise waived by the Director:
 - (1) Evaluation of alternative to bypass, including cost-benefit analysis containing an assessment of anticipated resource damages;
 - (2) A specific bypass plan describing the work to be performed including scheduled dates and times. The permittee must notify the Director in advance of any changes to the bypass schedule;

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- (3) Description of specific measures to be taken to minimize environmental and public health impacts;
 - (4) A notification plan sufficient to alert all downstream users, the public and others reasonably expected to be impacted by the bypass;
 - (5) A water quality assessment plan to include sufficient monitoring of the receiving water before, during and following the bypass to enable evaluation of public health risks and environmental impacts; and,
 - (6) Any additional information requested by the Director.
- b. *Emergency Bypass.* Where ninety days advance notice is not possible, the permittee must notify the Director, and the Director of the Department of Natural Resources, as soon as it becomes aware of the need to bypass and provide to the Director the information in *section IV.G.3.a.(1) through (6)* to the extent practicable.
- c. *Unanticipated bypass.* The permittee shall submit notice of an unanticipated bypass to the Director as required under *Part III.H, Twenty Four Hour Reporting*. The permittee shall also immediately notify the Director of the Department of Natural Resources, the public and downstream users and shall implement measures to minimize impacts to public health and environment to the extent practicable.

H. Upset Conditions.

- 1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph 2 of this section are met. Director's administrative determination regarding a claim of upset cannot be judiciously challenged by the permittee until such time as an action is initiated for noncompliance.
- 2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required under *Part III.H, Twenty-four Hour Notice of Noncompliance Reporting*; and,

PART IV
DISCHARGE PERMIT NO. UT0020931

- d. The permittee complied with any remedial measures required under *Part IV.D, Duty to Mitigate*.
- 3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

V. GENERAL REQUIREMENTS

- A. Planned Changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of parameters discharged or pollutant sold or given away. This notification applies to pollutants, which are not subject to effluent limitations in the permit. In addition, if there are any planned substantial changes to the permittee's existing sludge facilities or their manner of operation or to current sludge management practices of storage and disposal, the permittee shall give notice to the Director of any planned changes at least 30 days prior to their implementation.
- B. Anticipated Noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.
- C. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- D. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.
- E. Duty to Provide Information. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.
- F. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts or information.
- G. Signatory Requirements. All applications, reports or information submitted to the Director shall be signed and certified.
 - 1. All permit applications shall be signed by either a principal executive officer or ranking elected official.

PART V
DISCHARGE PERMIT NO. UT0020931

2. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the Director, and,
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. A duly authorized representative may thus be either a named individual or any individual occupying a named position.
3. Changes to authorization. If an authorization under *paragraph V.G.2* is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of *paragraph V.G.2* must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

- H. Penalties for Falsification of Reports. The *Act* provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both.

PART V
DISCHARGE PERMIT NO. UT0020931

- I. Availability of Reports. Except for data determined to be confidential under *UAC R317-8-3.2*, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of Director. As required by the *Act*, permit applications, permits and effluent data shall not be considered confidential.
- J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the permittee of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under the *Act*.
- K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
- L. Severability. The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
- M. Transfers. This permit may be automatically transferred to a new permittee if:
1. The current permittee notifies the Director at least 20 days in advance of the proposed transfer date;
 2. The notice includes a written agreement between the existing and new permittee's containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,
 3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.
- N. State or Federal Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by *UCA 19-5-117* and *Section 510* of the *Act* or any applicable Federal or State transportation regulations, such as but not limited to the Department of Transportation regulations.
- O. Water Quality - Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the

PART V
DISCHARGE PERMIT NO. UT0020931

appropriate effluent limitations and compliance schedule, if necessary, if one or more of the following events occurs:

1. Water Quality Standards for the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.
 2. A final wasteload allocation is developed and approved by the State and/or EPA for incorporation in this permit.
 3. Revisions to the current CWA § 208 area wide treatment management plans or promulgations/revisions to TMDLs (40 CFR 130.7) approved by the EPA and adopted by DWQ which calls for different effluent limitations than contained in this permit.
- P. Biosolids – Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate biosolids limitations (and compliance schedule, if necessary), management practices, other appropriate requirements to protect public health and the environment, or if there have been substantial changes (or such changes are planned) in biosolids use or disposal practices; applicable management practices or numerical limitations for pollutants in biosolids have been promulgated which are more stringent than the requirements in this permit; and/or it has been determined that the permittees biosolids use or land application practices do not comply with existing applicable state or federal regulations.
- Q. Toxicity Limitation - Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include, whole effluent toxicity (WET) testing, WET limitations, a compliance date, a compliance schedule, a change in the whole effluent toxicity (biomonitoring) protocol, additional or modified numerical limitations, or any other conditions related to the control of toxicants.
- R. Storm Water-Reopener Provision. At any time during the duration (life) of this permit, this permit may be reopened and modified (following proper administrative procedures) as per *UAC R317.8*, to include, any applicable storm water provisions and requirements, a storm water pollution prevention plan, a compliance schedule, a compliance date, monitoring and/or reporting requirements, or any other conditions related to the control of storm water discharges to "waters-of-State".

VI. DEFINITIONS

A. Wastewater.

1. The "7-day (and weekly) average", other than for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week, which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains Saturday.
2. The "30-day (and monthly) average," other than for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
3. "Act," means the *Utah Water Quality Act*.
4. "Bypass," means the diversion of waste streams from any portion of a treatment facility.
5. "CWA," means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
6. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.
7. "EPA," means the United States Environmental Protection Agency.
8. "Director," means Director of the Utah Division of Water Quality.
9. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

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DISCHARGE PERMIT NO. UT0020931

10. An “instantaneous” measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
11. “Severe Property Damage,” means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
12. Type II Land Disposal means the use of treated domestic wastewater effluent where human exposure is unlikely
13. “Upset,” means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

DWQ-2015-010326

**FACT SHEET
CITY OF CORINNE
UPDES PERMIT NUMBER: UT0020931
RENEWAL DISCHARGE PERMIT FOR MINOR MUNICIPAL**

FACILITY CONTACTS

Person Name:	Brett Merkley	Person Name:	Kelly Nichols
Position:	Mayor	Position:	Operator
Facility Name:	City of Corinne		
Mailing Address:	2420 North 4000 West PO Box 118 Corinne, Utah 84307		
Telephone:	(435) 744-5566		

DESCRIPTION OF FACILITY

The Corinne wastewater lagoon system (Corinne WLS) system was constructed in 1971 with seven cells. In 1981 it was expanded to eight cells. The facility serves Corinne City with a current population of 700 people (2014 application) with an average design flow of 70,000 gallons per day (GPD). The facility consists of a bar screen, 45° V-notch inlet weir, comminutor, sump and pump station, eight facultative lagoons operated in series, a Stevens discharge flow recorder, and a ten inch diameter concrete discharge pipe that runs approximately 200 feet, and discharges directly into the Bear River. The facility is located about ½ mile south of Corinne in Box Elder County, at latitude 41° 32' 14" longitude 112° 06' 37" (STORET number 490116).

The Corinne WLS is currently undertaking projects to address BOD₅ and *E. coli* effluent limitation exceedances. The Corinne WLS has plans to change the chlorination system from a tablet system to a chlorine gas system. The Corinne WLS is also pursuing a project to begin land application of the effluent to a nearby parcel and land disposal Outfall 001D has been permitted as part of the 2015 permit renewal. This project might ultimately completely remove the effluent from the Bear River.

DESCRIPTION OF DISCHARGE

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	The Corinne Wastewater Lagoon system is located approximately a half mile south of the City of Corinne on the west side of the Bear River. The discharge is from a twelve inch corrugated metal pipe discharging directly to the Bear River. Located at latitude 41° 32' 13.8" longitude 112° 06' 40".
001D	This outfall is to a retention ditch for land disposal. Located at latitude 41° 32' 15" and longitude -112° 06' 42".

RECEIVING WATERS AND STREAM CLASSIFICATION

The discharge flows into the Bear River, thence to the Great Salt Lake. The Bear River is classified as 2B, 3B, 3D and 4 according to *Utah Administrative Code (UAC) R317-2-13.3 (a)*.

- Class 2B -Protected for secondary contact recreation such as boating, wading, or similar uses.
- Class 3B -Protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.
- Class 3D - Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.
- Class 4 -Protected for agricultural uses including irrigation of crops and stock watering.

TOTAL MAXIMUM DAILY LOADS (TMDL) AND IMPARMENT LISTINGS

The Corinne WLS discharges to the Bear River which is 303(d) listed for total phosphorous and total suspended solids (TDS). A total phosphorous TMDL was completed for the Bear River on September 9th, 2002. The TMDL indicated that the three point sources in this segment, Corinne, Bear River and Tremonton cities accounted for approximately 3% of the total phosphorous load to the Lower Bear River. The remaining 97% is attributed to nonpoint sources. Given that the non-point source total phosphorous loads overshadow the point source contributions, the time-frame for including total phosphorous effluent limits for the small towns of Bear River City, Tremonton and Corinne is not urgent. The Lower Bear River total phosphorous TMDL may be reevaluated in the future so continued total phosphorous monitoring is required. In addition, a future TMDL for TDS in the Lower Bear River will include an evaluation of TDS loading from the treatment plant. Thus, TDS monitoring is being added during this permit renewal.

DISCHARGE MONITORING RESULTS

The Corinne WLS has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis. Below is DMR data for the past 5 years of effluent limitation exceedances for flow, BOD₅, TSS, *E. coli* and pH. Eleven of these events exceed the effluent limitation by 40% or more on the sampling date. During January 2014 to April 2014 the BOD₅ effluent limitation was exceeded and a letter of violation was sent. This letter also covered the exceedingly high *E. coli* violation during February 2013. Since many of the other exceedances span over a number of years for each constituent no additional letters of violation or notices of violation have been issued to the facility.

Flow, in conduit or thru treatment plant	Limit = 0.07
Monitoring Period	30 Day Average (mgd)
November 2011	0.14
March 2012	0.17
May 2012	0.26
June 2012	0.26
July 2012	0.26

BOD, 5-day, 20 deg. C	Limit = 35	Limit = 25
Monitoring Period	7 Day Average (mg/L)	30 Day Average (mg/L)
March 2010	49.6	49.6
April 2011	39.3	39.3
February 2013	32.8	32.8
April 2013	26	26
June 2013	50.3	50.3
September 2013	29	29
January 2014	26.9	26.9
February 2014	30.6	30.6
March 2014	46	46
April 2014	40.2	40.2
September 2014	27	27

Solids, total suspended	Limit = 35	Limit = 25
Monitoring Period	7 Day Average (mg/L)	30 Day Average (mg/L)
March 2010	55.4	55.4
April 2011	67	67
February 2014	28	28
March 2014	68	68

<i>E. coli</i>	Limit =158	Limit = 126
Monitoring Period	7 Day Geomean (cfu/100mL)	30 Day Geomean (cfu/100mL)
March 2010	361	361
June 2012	816	816
February 2013	1414	1414
June 2013	141	141

pH	Limit < 9.0
Monitoring Period	Daily Maximum (SU)
June 2012	9.31
July 2012	9.46
August 2012	9.36
September 2012	9.27
April 2013	9.28
August 2013	9.28
September 2013	9.08
April 2014	9.4
June 2014	10.2
July 2014	9.32

BASIS FOR EFFLUENT LIMITATIONS FOR SURFACE WATER DISCHARGE

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD₅), *E. coli*, and pH requirements are based on current Utah Secondary Treatment Standards, *UAC Code R317-1-3.2*. The dissolved oxygen minimum is based on the waste load analysis (attached) and indicates these parameters should be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. Ammonia and total residual chlorine effluent limitations were evaluated however the Corinne WLS has no reasonable potential to exceed the maximum levels calculated in the WLA. Based on self-monitoring data during the last permit period, the Corrine WLS should not have any difficulty meeting the permit parameters indicated below:

Parameter	Effluent Limitations ¹			
	Maximum Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
Flow, mgd	0.07			
BOD ₅ , mg/L	25	35		
Total Suspended Solids (TSS) mg/L	25	35		
<i>E. coli</i> , No./100mL	126	158		
pH, Standard Units			6.5	9.0
Dissolved Oxygen, mg/L			4.0	

1. See Definitions, *Part VI* of the permit, for definition of terms.

SELF-MONITORING AND REPORTING REQUIREMENTS FOR SURFACE WATER DISCHARGE

The following self-monitoring requirements are the same as in the previous permit. The permit will require reports to be submitted monthly and yearly, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period.

Influent Self-Monitoring and Reporting Requirements ¹			
Parameter	Frequency	Sample Type	Units
BOD ₅ ²	Monthly	Grab	mg/L
TSS ²	Monthly	Grab	mg/L
Total Phosphorus (as P)	Monthly	Composite ³	mg/L
Total Kjeldahl Nitrogen (as N)	Monthly	Composite ³	mg/L
Metals ⁴	Quarterly	Composite ³	mg/L
Organic Toxics ⁵	2 nd and 4 th year	Grab	mg/L

Effluent Self-Monitoring and Reporting Requirements ¹			
Parameter	Frequency	Sample Type	Units
Total Flow ²	Continuous	Recorder	mgd
BOD ₅ ²	Monthly	Grab	mg/L
TSS ²	Monthly	Grab	mg/L
<i>E. coli</i>	Monthly	Grab	No./100mL
pH	Monthly	Grab	SU
Dissolved Oxygen	Monthly	Grab	mg/L
Oil & Grease ⁶	Monthly	Grab	mg/L
Total Dissolved Solids	Monthly	Grab	mg/L
Total Phosphorus (as P)	Monthly	Composite ³	mg/L
Orthophosphate (as P)	Monthly	Composite ³	mg/L
Ammonia (as N)	Monthly	Composite ³	mg/L
Nitrate-Nitrite (as N)	Monthly	Composite ³	mg/L
Total Kjeldahl Nitrogen (as N)	Monthly	Composite ³	mg/L
Metals ⁴	Quarterly	Composite ³	mg/L
Organic Toxics ⁵	2 nd and 4 th year	Grab	mg/L

1. See Definitions, *Part VI* of the permit, for definition of terms.
2. Influent samples and the influent flow shall be monitored and measured at the same frequency as the effluent samples and the effluent flow.
3. Composite samples shall be by use of an automatic sampler or minimum of four grab samples collected a minimum of two hours apart.
4. As defined in Section II.A.1. of the Permit.
5. The toxic pollutants are listed in *40 CFR 122 Appendix D Table II (Organic Toxic Pollutants)*.
6. Sample only if sheen is observed.

BASIS FOR EFFLUENT LIMITATIONS FOR LAND DISPOSAL

The BOD, TSS, pH, and *E. coli* limits are set in accordance with UAC R317-3-11.5.C.5.

1. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge effluent for Land Disposal from Outfall 001D. Such discharges shall be limited and monitored by the permittee as specified below:

Parameter	Effluent Limitations for Type II Land Disposal at Outfall 001D ^{1, 2}		
	Maximum Weekly Avg	Daily Minimum	Daily Maximum
BOD ₅ , mg/L	35		
Total Suspended Solids (TSS) mg/L	35		
<i>E. coli</i> , No./100mL	158		500
pH, Standard Units		6.5	9.0

Self-Monitoring and Reporting Requirements for Type II Land Disposal at Outfall 001D ^{1, 2}			
Parameter	Frequency	Sample Type	Units
Applied Flow	Continuous	Recorder	mgd
Irrigated Acreage	Monthly	Estimated	acres
BOD ₅	Monthly	Grab	mg/L
TSS	Monthly	Grab	mg/L
<i>E. coli</i>	Monthly	Grab	No./100mL
pH	Monthly	Grab	SU
Total Inorganic Nitrogen	Monthly	Grab	mg/L

1. See Definitions, *Part VI*, for definition of terms.
2. Effluent shall only be disposed of by methods allowed by R317-3-11.5.A.

B. Management Practices for Land Application of Treated Effluent

1. The application of treated effluent to frozen, ice-covered, or snow covered land is prohibited.
2. No person shall apply treated effluent where the slope of the site exceeds 6 percent.
3. The use should not result in a surface water runoff except as authorized under I.C. of this permit.
4. The use must not result in the creation of an unhealthy or nuisance condition, as determined by the local health department.
5. Any irrigation with treated effluent must be at least 300 feet from a potable well.
6. Spray irrigation must be at least 100 feet from areas intended for public access. This distance may be reduced or increased by the Director.
7. Impoundments of treated effluent, if not sealed, must be at least 500 feet from any potable well.

8. Public access to effluent storage and irrigation or disposal sites shall be restricted by a stock-tight fence or other comparable means which shall be posted and controlled to exclude the public.

Monitoring results obtained during the previous year shall be summarized and submitted in an Annual Report by May 1st. The report shall include a tabular summary of the monthly minimum, average, and maximum values. This report may be submitted as a standalone report or as an inclusion in the facility's Municipal Wastewater Planning Program (MWPP). This report is intended to provide information for the Division to provide oversight of the land disposal.

BIOSOLIDS

Because the permitted facility is a lagoon, there is no regular sludge production. Therefore, the requirements of 40 CFR 503 do not apply unless sludge is removed from the lagoon system and disposed.

STORM WATER

Wastewater Treatment Facilities, which includes Lagoon Systems, are required to comply with storm water permit requirements if they meet one or both of the following criteria,

1. The facility has an approved pretreatment program as described in 40 CFR Part 403.
2. The facility has a design flow of 1.0 MGD or greater.

The Corinne WLS does not meet either of the criteria, therefore a storm water permit is not required at this time. A storm water re-opener provision is included in the permit should a storm water permit be needed in the future.

PRETREATMENT REQUIREMENTS

The permittee has not been designated for pretreatment program development because it does not meet conditions which necessitate a full program. The flow through the plant is less than five (5) MGD, industrial discharges comprise less than 1 percent of the flow through the treatment facility, and there is no indication of pass through or interference with the operation of the treatment facility such as upsets or violations of the POTW's UPDES permit limits.

Although the permittee does not have to develop a State-approved pretreatment program, any wastewater discharges to the sanitary sewer are subject to Federal, State and local regulations. Pursuant to *Section 307 of the Clean Water Act*, the permittee shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in 40 CFR 403 and the State Pretreatment Requirements found in UAC R317-8-8.

An industrial waste survey (IWS) is required of the permittee as stated in Part II of the permit. The IWS is to assess the needs of the permittee regarding pretreatment assistance. The IWS is required to be submitted within sixty (60) days after the issuance of the permit. If an Industrial User begins to discharge or an existing Industrial User changes their discharge the permittee must resubmit an IWS no later than sixty days following the introduction or change as stated in Part II of the permit.

It is recommended that the permittee perform an annual evaluation of the need to revise or develop technically based local limits for pollutants of concern, to implement the general and specific prohibitions 40 CFR, Part 403.5(a) and Part 403.5(b). This evaluation may indicate that present local limits are sufficiently protective, need to be revised or should be developed. It is required that the permittee submit for review any local limits that are developed to the Division of Water Quality for review and if needed public notice.

The permit requires quarterly influent and effluent monitoring for metals.

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the *State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring)*. Authority to require effluent biomonitoring is provided in *Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2*.

The permittee is a minor municipal intermittent discharger that will be contributing a small volume of effluent when compared to the existing receiving waters, in which toxicity is not likely to be present. Based on these considerations, and the fact that there are no present or anticipated industrial users on the system, there is no reasonable potential for toxicity in the permittee's discharge (*per State of Utah Permitting and Enforcement Guidance Document for WET Control*). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

Monitoring for total phosphorus, orthophosphate, total kjeldahl nitrogen, nitrate-nitrite, and ammonia were added in accordance with *UAC R317-1-3.3.D*. Monitoring for Organic Toxics was added based on pretreatment program requires for having an industrial discharger. Total phosphorus monitoring was reduced to once per month as required by *UAC R317-1-3.3.D*. Total dissolved solids monitoring was added for future TMDL evaluation. Land disposal Outfall 001D was added to the permit with corresponding disposal limitations, monitoring requirements, and annual reporting requirements.

PERMIT DURATION

It is recommended that this permit be effective for duration of five (5) years. Drafted by:
Permit Writer Ken Hoffman, P.E. 801-536-4313 (kenhoffman@utah.gov)

Biosolids	Dan Griffin
Pretreatment	Jen Robinson
Storm water	Mike George
WET	Mike Herkimer
TMDL	Mike Allred
WLA	Dave Wham

PUBLIC NOTICE

Began: March 18, 2016

Ended: April 18, 2016

Comments will be received at: 195 North 1950 West
PO Box 144870
Salt Lake City, UT 84114-4870

The Public Noticed of the draft permit was published in the Herald Journal.

During the public comment period provided under R317-8-6.5, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in R317-8-6.12.

No comments were received during the public notice period.

DWQ-2015-010324

Utah Division of Water Quality
Salt Lake City, Utah

WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis
SUMMARY

Discharging Facility: Corinne Lagoons
UPDES No: UT-0020931
Current Flow: 0.07 MGD **Design Flow**
Design Flow 0.07 MGD

Receiving Water: Bear River
Stream Classification: 2B, 3B, 3C, 4
Stream Flows [cfs]:
322.0 Summer (July-Sept) 20th Percentile
322.0 Fall (Oct-Dec) 20th Percentile
322.0 Winter (Jan-Mar) 20th Percentile
322.0 Spring (Apr-June) 20th Percentile
1567.0 Average
Stream TDS Values:
1134.0 Summer (July-Sept) 80th Percentile
1134.0 Fall (Oct-Dec) 80th Percentile
1134.0 Winter (Jan-Mar) 80th Percentile
1134.0 Spring (Apr-June) 80th Percentile

Effluent Limits:		WQ Standard:
Flow, MGD:	0.07 MGD	Design Flow
BOD, mg/l:	25.0 Summer	5.0 Indicator
Dissolved Oxygen, mg/l	5.0 Summer	5.5 30 Day Average
TNH3, Chronic, mg/l:	2444.2 Summer	Varies Function of pH and Temperature
TDS, mg/l:	1200.0 Summer	1200.0 Discharge to waterbody impaired for TDS

Modeling Parameters:
Acute River Width: 50.0%
Chronic River Width: 89.1% Plume Model Used

Antidegradation Level 2 not required. Simple renewal, no increase in permitted flow or concentration.

Date: 2/25/2015

Permit Writer:

WLA by:

WQM Sec. Approval:

TMDL Sec. Approval:

**Utah Division of Water Quality
Salt Lake City, Utah**

**WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis**

25-Feb-15
4:00 PM

Facilities: Corinne Lagoons
Discharging to: Bear River

UPDES No: UT-0020931

I. Introduction

Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses [R317-2-8, UAC]. Projected concentrations are compared to numeric water quality standards to determine acceptability. The anti-degradation policy and procedures are also considered. The primary in-stream parameters of concern may include metals (as a function of hardness), total dissolved solids (TDS), total residual chlorine (TRC), un-ionized ammonia (as a function of pH and temperature, measured and evaluated in terms of total ammonia), and dissolved oxygen.

Mathematical water quality modeling is employed to determine stream quality response to point source discharges. Models aid in the effort of anticipating stream quality at future effluent flows at critical environmental conditions (e.g., low stream flow, high temperature, high pH, etc).

The numeric criteria in this wasteload analysis may always be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

II. Receiving Water and Stream Classification

Bear River:	2B, 3B, 3C, 4
Antidegradation Review:	Antidegradation Level 2 not required. Simple renewal, no increase in permitted flow or concentration.

III. Numeric Stream Standards for Protection of Aquatic Wildlife

Total Ammonia (TNH3)	Varies as a function of Temperature and pH Rebound. See Water Quality Standards
Chronic Total Residual Chlorine (TRC)	0.011 mg/l (4 Day Average) 0.019 mg/l (1 Hour Average)
Chronic Dissolved Oxygen (DO)	5.50 mg/l (30 Day Average) 4.00 mg/l (7Day Average) 3.00 mg/l (1 Day Average)
Maximum Total Dissolved Solids	1200.0 mg/l

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Acute and Chronic Heavy Metals (Dissolved)

Parameter	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration		Load*
Aluminum	87.00 ug/l**	0.051 lbs/day	750.00	ug/l	0.438 lbs/day
Arsenic	190.00 ug/l	0.111 lbs/day	340.00	ug/l	0.198 lbs/day
Cadmium	0.61 ug/l	0.000 lbs/day	6.52	ug/l	0.004 lbs/day
Chromium III	211.90 ug/l	0.124 lbs/day	4433.41	ug/l	2.588 lbs/day
Chromium VI	11.00 ug/l	0.006 lbs/day	16.00	ug/l	0.009 lbs/day
Copper	23.85 ug/l	0.014 lbs/day	39.41	ug/l	0.023 lbs/day
Iron			1000.00	ug/l	0.584 lbs/day
Lead	12.88 ug/l	0.008 lbs/day	330.57	ug/l	0.193 lbs/day
Mercury	0.0120 ug/l	0.000 lbs/day	2.40	ug/l	0.001 lbs/day
Nickel	132.12 ug/l	0.077 lbs/day	1188.36	ug/l	0.694 lbs/day
Selenium	4.60 ug/l	0.003 lbs/day	20.00	ug/l	0.012 lbs/day
Silver	N/A ug/l	N/A lbs/day	25.04	ug/l	0.015 lbs/day
Zinc	303.91 ug/l	0.177 lbs/day	303.91	ug/l	0.177 lbs/day

* Allowed below discharge

**Chronic Aluminum standard applies only to waters with a pH < 7.0 and a Hardness < 50 mg/l as CaCO₃

Metals Standards Based upon a Hardness of 299.98 mg/l as CaCO₃

Organics [Pesticides]

Parameter	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
	Concentration	Load*	Concentration		Load*
Aldrin			1.500	ug/l	0.001 lbs/day
Chlordane	0.004 ug/l	6.645 lbs/day	1.200	ug/l	0.001 lbs/day
DDT, DDE	0.001 ug/l	1.545 lbs/day	0.550	ug/l	0.000 lbs/day
Dieldrin	0.002 ug/l	2.936 lbs/day	1.250	ug/l	0.001 lbs/day
Endosulfan	0.056 ug/l	86.538 lbs/day	0.110	ug/l	0.000 lbs/day
Endrin	0.002 ug/l	3.554 lbs/day	0.090	ug/l	0.000 lbs/day
Guthion			0.010	ug/l	0.000 lbs/day
Heptachlor	0.004 ug/l	5.872 lbs/day	0.260	ug/l	0.000 lbs/day
Lindane	0.080 ug/l	123.626 lbs/day	1.000	ug/l	0.001 lbs/day
Methoxychlor			0.030	ug/l	0.000 lbs/day
Mirex			0.010	ug/l	0.000 lbs/day
Parathion			0.040	ug/l	0.000 lbs/day
PCB's	0.014 ug/l	21.635 lbs/day	2.000	ug/l	0.001 lbs/day
Pentachlorophenol	13.00 ug/l	20089.255 lbs/day	20.000	ug/l	0.012 lbs/day
Toxephene	0.0002 ug/l	0.309 lbs/day	0.7300	ug/l	0.000 lbs/day

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IV. Numeric Stream Standards for Protection of Agriculture

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	Load*	Concentration	Load*
Arsenic			100.0 ug/l	lbs/day
Boron			750.0 ug/l	lbs/day
Cadmium			10.0 ug/l	0.00 lbs/day
Chromium			100.0 ug/l	lbs/day
Copper			200.0 ug/l	lbs/day
Lead			100.0 ug/l	lbs/day
Selenium			50.0 ug/l	lbs/day
TDS, Summer			1200.0 mg/l	0.35 tons/day

V. Numeric Stream Standards for Protection of Human Health (Class 1C Waters)

Metals	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	Load*	Concentration	Load*
Arsenic			ug/l	lbs/day
Barium			ug/l	lbs/day
Cadmium			ug/l	lbs/day
Chromium			ug/l	lbs/day
Lead			ug/l	lbs/day
Mercury			ug/l	lbs/day
Selenium			ug/l	lbs/day
Silver			ug/l	lbs/day
Fluoride (3)			ug/l	lbs/day
to			ug/l	lbs/day
Nitrates as N			ug/l	lbs/day

Chlorophenoxy Herbicides

2,4-D	ug/l	lbs/day
2,4,5-TP	ug/l	lbs/day
Endrin	ug/l	lbs/day
ocyclohexane (Lindane)	ug/l	lbs/day
Methoxychlor	ug/l	lbs/day
Toxaphene	ug/l	lbs/day

VI. Numeric Stream Standards the Protection of Human Health from Water & Fish Consumption [Toxics]

Toxic Organics	Maximum Conc., ug/l - Acute Standards			
	Class 1C		Class 3A, 3B	
	[2 Liters/Day for 70 Kg Person over 70 Yr.]		[6.5 g for 70 Kg Person over 70 Yr.]	
Acenaphthene	ug/l	lbs/day	2700.0 ug/l	4172.38 lbs/day
Acrolein	ug/l	lbs/day	780.0 ug/l	1205.36 lbs/day
Acrylonitrile	ug/l	lbs/day	0.7 ug/l	1.02 lbs/day
Benzene	ug/l	lbs/day	71.0 ug/l	109.72 lbs/day
Benzidine	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Carbon tetrachloride	ug/l	lbs/day	4.4 ug/l	6.80 lbs/day
Chlorobenzene	ug/l	lbs/day	21000.0 ug/l	32451.87 lbs/day
1,2,4-Trichlorobenzene				
Hexachlorobenzene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Dichloroethane	ug/l	lbs/day	99.0 ug/l	152.99 lbs/day

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1,1,1-Trichloroethane				
Hexachloroethane	ug/l	lbs/day	8.9 ug/l	13.75 lbs/day
1,1-Dichloroethane				
1,1,2-Trichloroethane	ug/l	lbs/day	42.0 ug/l	64.90 lbs/day
1,1,2,2-Tetrachloroethane	ug/l	lbs/day	11.0 ug/l	17.00 lbs/day
Chloroethane			0.0 ug/l	0.00 lbs/day
Bis(2-chloroethyl) ether	ug/l	lbs/day	1.4 ug/l	2.16 lbs/day
2-Chloroethyl vinyl ether	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
2-Chloronaphthalene	ug/l	lbs/day	4300.0 ug/l	6644.91 lbs/day
2,4,6-Trichlorophenol	ug/l	lbs/day	6.5 ug/l	10.04 lbs/day
p-Chloro-m-cresol			0.0 ug/l	0.00 lbs/day
Chloroform (HM)	ug/l	lbs/day	470.0 ug/l	726.30 lbs/day
2-Chlorophenol	ug/l	lbs/day	400.0 ug/l	618.13 lbs/day
1,2-Dichlorobenzene	ug/l	lbs/day	17000.0 ug/l	26270.56 lbs/day
1,3-Dichlorobenzene	ug/l	lbs/day	2600.0 ug/l	4017.85 lbs/day
1,4-Dichlorobenzene	ug/l	lbs/day	2600.0 ug/l	4017.85 lbs/day
3,3'-Dichlorobenzidine	ug/l	lbs/day	0.1 ug/l	0.12 lbs/day
1,1-Dichloroethylene	ug/l	lbs/day	3.2 ug/l	4.95 lbs/day
1,2-trans-Dichloroethylene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dichlorophenol	ug/l	lbs/day	790.0 ug/l	1220.81 lbs/day
1,2-Dichloropropane	ug/l	lbs/day	39.0 ug/l	60.27 lbs/day
1,3-Dichloropropylene	ug/l	lbs/day	1700.0 ug/l	2627.06 lbs/day
2,4-Dimethylphenol	ug/l	lbs/day	2300.0 ug/l	3554.25 lbs/day
2,4-Dinitrotoluene	ug/l	lbs/day	9.1 ug/l	14.06 lbs/day
2,6-Dinitrotoluene	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Diphenylhydrazine	ug/l	lbs/day	0.5 ug/l	0.83 lbs/day
Ethylbenzene	ug/l	lbs/day	29000.0 ug/l	44814.49 lbs/day
Fluoranthene	ug/l	lbs/day	370.0 ug/l	571.77 lbs/day
4-Chlorophenyl phenyl ether				
4-Bromophenyl phenyl ether				
Bis(2-chloroisopropyl) ether	ug/l	lbs/day	170000.0 ug/l	262705.64 lbs/day
Bis(2-chloroethoxy) methane	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Methylene chloride (HM)	ug/l	lbs/day	1600.0 ug/l	2472.52 lbs/day
Methyl chloride (HM)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Methyl bromide (HM)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Bromoform (HM)	ug/l	lbs/day	360.0 ug/l	556.32 lbs/day
Dichlorobromomethane	ug/l	lbs/day	22.0 ug/l	34.00 lbs/day
Chlorodibromomethane	ug/l	lbs/day	34.0 ug/l	52.54 lbs/day
Hexachlorobutadiene(c)	ug/l	lbs/day	50.0 ug/l	77.27 lbs/day
Hexachlorocyclopentadiene	ug/l	lbs/day	17000.0 ug/l	26270.56 lbs/day
Isophorone	ug/l	lbs/day	600.0 ug/l	927.20 lbs/day
Naphthalene				
Nitrobenzene	ug/l	lbs/day	1900.0 ug/l	2936.12 lbs/day
2-Nitrophenol	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4-Nitrophenol	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dinitrophenol	ug/l	lbs/day	14000.0 ug/l	21634.58 lbs/day
4,6-Dinitro-o-cresol	ug/l	lbs/day	765.0 ug/l	1182.18 lbs/day
N-Nitrosodimethylamine	ug/l	lbs/day	8.1 ug/l	12.52 lbs/day
N-Nitrosodiphenylamine	ug/l	lbs/day	16.0 ug/l	24.73 lbs/day
N-Nitrosodi-n-propylamine	ug/l	lbs/day	1.4 ug/l	2.16 lbs/day
Pentachlorophenol	ug/l	lbs/day	8.2 ug/l	12.67 lbs/day

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Phenol	ug/l	lbs/day	4.6E+06 ug/l	7.11E+06 lbs/day
Bis(2-ethylhexyl)phthala	ug/l	lbs/day	5.9 ug/l	9.12 lbs/day
Butyl benzyl phthalate	ug/l	lbs/day	5200.0 ug/l	8035.70 lbs/day
Di-n-butyl phthalate	ug/l	lbs/day	12000.0 ug/l	18543.93 lbs/day
Di-n-octyl phthlate				
Diethyl phthalate	ug/l	lbs/day	120000.0 ug/l	185439.28 lbs/day
Dimethyl phthlate	ug/l	lbs/day	2.9E+06 ug/l	4.48E+06 lbs/day
Benzo(a)anthracene (P/	ug/l	lbs/day	0.0 ug/l	0.05 lbs/day
Benzo(a)pyrene (PAH)	ug/l	lbs/day	0.0 ug/l	0.05 lbs/day
Benzo(b)fluoranthene (F	ug/l	lbs/day	0.0 ug/l	0.05 lbs/day
Benzo(k)fluoranthene (F	ug/l	lbs/day	0.0 ug/l	0.05 lbs/day
Chrysene (PAH)	ug/l	lbs/day	0.0 ug/l	0.05 lbs/day
Acenaphthylene (PAH)				
Anthracene (PAH)	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Dibenzo(a,h)anthracene	ug/l	lbs/day	0.0 ug/l	0.05 lbs/day
Indeno(1,2,3-cd)pyrene	ug/l	lbs/day	0.0 ug/l	0.05 lbs/day
Pyrene (PAH)	ug/l	lbs/day	11000.0 ug/l	16998.60 lbs/day
Tetrachloroethylene	ug/l	lbs/day	8.9 ug/l	13.75 lbs/day
Toluene	ug/l	lbs/day	200000 ug/l	309065.46 lbs/day
Trichloroethylene	ug/l	lbs/day	81.0 ug/l	125.17 lbs/day
Vinyl chloride	ug/l	lbs/day	525.0 ug/l	811.30 lbs/day
				lbs/day
Pesticides				lbs/day
Aldrin	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Dieldrin	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Chlordane	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDT	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDE	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDD	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
alpha-Endosulfan	ug/l	lbs/day	2.0 ug/l	3.09 lbs/day
beta-Endosulfan	ug/l	lbs/day	2.0 ug/l	3.09 lbs/day
Endosulfan sulfate	ug/l	lbs/day	2.0 ug/l	3.09 lbs/day
Endrin	ug/l	lbs/day	0.8 ug/l	1.25 lbs/day
Endrin aldehyde	ug/l	lbs/day	0.8 ug/l	1.25 lbs/day
Heptachlor	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Heptachlor epoxide				
PCB's				
PCB 1242 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1254 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1221 (Arochlor 122	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1232 (Arochlor 123	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1248 (Arochlor 124	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1260 (Arochlor 126	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1016 (Arochlor 101	ug/l	lbs/day	0.0 ug/l	0.00 lbs/day
Pesticide				
Toxaphene	ug/l		0.0 ug/l	0.00 lbs/day
Dioxin				
Dioxin (2,3,7,8-TCDD)	ug/l	lbs/day		

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Metals

Antimony	ug/l	lbs/day		
Arsenic	ug/l	lbs/day	4300.00 ug/l	6644.91 lbs/day
Asbestos	ug/l	lbs/day		
Beryllium				
Cadmium				
Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	ug/l	lbs/day	2.2E+05 ug/l	339972.01 lbs/day
Lead	ug/l	lbs/day		
Mercury			0.15 ug/l	0.23 lbs/day
Nickel			4600.00 ug/l	7108.51 lbs/day
Selenium	ug/l	lbs/day		
Silver	ug/l	lbs/day		
Thallium			6.30 ug/l	9.74 lbs/day
Zinc				

There are additional standards that apply to this receiving water, but were not considered in this modeling/waste load allocation analysis.

VII. Mathematical Modeling of Stream Quality

Model configuration was accomplished utilizing standard modeling procedures. Data points were plotted and coefficients adjusted as required to match observed data as closely as possible.

The modeling approach used in this analysis included one or a combination of the following models.

(1) The Utah River Model, Utah Division of Water Quality, 1992. Based upon STREAMDO IV (Region VIII) and Supplemental Ammonia Toxicity Models; EPA Region VIII, Sept. 1990 and QUAL2E (EPA, Athens, GA).

(2) Utah Ammonia/Chlorine Model, Utah Division of Water Quality, 1992.

(3) AMMTOX Model, University of Colorado, Center of Limnology, and EPA Region 8

(4) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

Coefficients used in the model were based, in part, upon the following references:

(1) Rates, Constants, and Kinetics Formulations in Surface Water Quality Modeling. Environmental Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Athens Georgia. EPA/600/3-85/040 June 1985.

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(2) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al.
Harper Collins Publisher, Inc. 1987, pp. 644.

VIII. Modeling Information

The required information for the model may include the following information for both the upstream conditions at low flow and the effluent conditions:

Flow, Q, (cfs or MGD)	D.O. mg/l
Temperature, Deg. C.	Total Residual Chlorine (TRC), mg/l
pH	Total NH3-N, mg/l
BOD5, mg/l	Total Dissolved Solids (TDS), mg/l
Metals, ug/l	Toxic Organics of Concern, ug/l

Other Conditions

In addition to the upstream and effluent conditions, the models require a variety of physical and biological coefficients and other technical information. In the process of actually establishing the permit limits for an effluent, values are used based upon the available data, model calibration, literature values, site visits and best professional judgement.

Model Inputs

The following is upstream and discharge information that was utilized as inputs for the analysis. Dry washes are considered to have an upstream flow equal to the flow of the discharge.

Current Upstream Information

	Stream Critical								
	Low Flow	Temp.	pH	T-NH3	BOD5	DO	TRC	TDS	
	cfs	Deg. C		mg/l as N	mg/l	mg/l	mg/l	mg/l	
Summer (Irrig. Season)	322.0	11.8	8.3	0.67	0.10	8.37	0.00	1134.0	
Fall	322.0	11.8	8.3	0.67	0.10	---	0.00	1134.0	
Winter	322.0	11.8	8.3	0.67	0.10	---	0.00	1134.0	
Spring	322.0	11.8	8.3	0.67	0.10	---	0.00	1134.0	
Dissolved	Al	As	Cd	CrIII	CrVI	Copper	Fe	Pb	
Metals	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
All Seasons	1.59*	0.53*	0.053*	0.53*	2.65*	0.53*	0.83*	0.53*	
Dissolved	Hg	Ni	Se	Ag	Zn	Boron			
Metals	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l			
All Seasons	0.0000	0.53*	1.06*	0.1*	0.053*	10.0			* 1/2 MDL

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Projected Discharge Information

Season	Flow, MGD	Temp.	TDS mg/l	TDS tons/day
Summer	0.07000	12.8	1229.00	0.35867
Fall	0.07000	12.8		
Winter	0.07000	12.8		
Spring	0.07000	12.8		

All model numerical inputs, intermediate calculations, outputs and graphs are available for discussion, inspection and copy at the Division of Water Quality.

IX. Effluent Limitations

Current State water quality standards are required to be met under a variety of conditions including in-stream flows targeted to the 7-day, 10-year low flow (R317-2-9).

Other conditions used in the modeling effort coincide with the environmental conditions expected at low stream flows.

Effluent Limitation for Flow based upon Water Quality Standards

In-stream criteria of downstream segments will be met with an effluent flow maximum value as follows:

Season	Daily Average	
Summer	0.070 MGD	0.108 cfs
Fall	0.070 MGD	0.108 cfs
Winter	0.070 MGD	0.108 cfs
Spring	0.070 MGD	0.108 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 0.07 MGD. If the discharger is allowed to have a flow greater than 0.07 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occurring, the permit writers must include the discharge flow limitation as indicated above; or, include loading effluent limits in the permit.

Effluent Limitation for Whole Effluent Toxicity (WET) based upon WET Policy

Effluent Toxicity will not occur in downstream segments if the values below are met.

WET Requirements	LC50 >	0.2% Effluent	[Acute]
	IC25 >	0.0% Effluent	[Chronic]

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Effluent Limitation for Biological Oxygen Demand (BOD) based upon Water Quality Standards or Regulations

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent BOD limitation as follows:

Season	Concentration	
Summer	25.0 mg/l as BOD5	14.6 lbs/day
Fall	25.0 mg/l as BOD5	14.6 lbs/day
Winter	25.0 mg/l as BOD5	14.6 lbs/day
Spring	25.0 mg/l as BOD5	14.6 lbs/day

Effluent Limitation for Dissolved Oxygen (DO) based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent D.O. limitation as follows:

Season	Concentration
Summer	5.00
Fall	5.00
Winter	5.00
Spring	5.00

Effluent Limitation for Total Ammonia based upon Water Quality Standards

In-stream criteria of downstream segments for Total Ammonia will be met with an effluent limitation (expressed as Total Ammonia as N) as follows:

Season		Concentration	Load
Summer	4 Day Avg. - Chronic	2444.2 mg/l as N	1,426.6 lbs/day
	1 Hour Avg. - Acute	4419.3 mg/l as N	2,579.5 lbs/day
Fall	4 Day Avg. - Chronic	2444.2 mg/l as N	1,426.6 lbs/day
	1 Hour Avg. - Acute	4419.3 mg/l as N	2,579.5 lbs/day
Winter	4 Day Avg. - Chronic	2444.2 mg/l as N	1,426.6 lbs/day
	1 Hour Avg. - Acute	4419.3 mg/l as N	2,579.5 lbs/day
Spring	4 Day Avg. - Chronic	2444.2 mg/l as N	0.0 lbs/day
	1 Hour Avg. - Acute	4419.3 mg/l as N	0.0 lbs/day

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 50. %.

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Effluent Limitation for Total Residual Chlorine based upon Water Quality Standards

In-stream criteria of downstream segments for Total Residual Chlorine will be met with an effluent limitation as follows:

Season		Concentration		Load	
Summer	4 Day Avg. - Chronic	28.858	mg/l	16.84	lbs/day
	1 Hour Avg. - Acute	28.119	mg/l	16.41	lbs/day
Fall	4 Day Avg. - Chronic	28.858	mg/l	16.84	lbs/day
	1 Hour Avg. - Acute	28.119	mg/l	16.41	lbs/day
Winter	4 Day Avg. - Chronic	28.858	mg/l	16.84	lbs/day
	1 Hour Avg. - Acute	28.119	mg/l	16.41	lbs/day
Spring	4 Day Avg. - Chronic	28.858	mg/l	0.00	lbs/day
	1 Hour Avg. - Acute	28.119	mg/l	0.00	lbs/day

Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

Season		Concentration		Load	
Summer	Maximum, Acute	1200.0	mg/l	0.35	tons/day
Fall	Maximum, Acute	1200.0	mg/l	0.35	tons/day
Winter	Maximum, Acute	1200.0	mg/l	0.35	tons/day
Spring	4 Day Avg. - Chronic	1200.0	mg/l	0.35	tons/day

Colorado Salinity Forum Limits Determined by Permitting Section

Effluent Limitations for Total Recoverable Metals based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Metals will be met with an effluent limitation as follows (based upon a hardness of 299.98 mg/l):

	4 Day Average		1 Hour Average		
	Concentration	Load	Concentration		Load
Aluminum	N/A	N/A	#####	ug/l	649.2 lbs/day
Arsenic	##### ug/l	189.3 lbs/day	504,652.5	ug/l	294.6 lbs/day
Cadmium	1,408.78 ug/l	0.5 lbs/day	9,577.1	ug/l	5.6 lbs/day
Chromium III	##### ug/l	211.2 lbs/day	#####	ug/l	3849.2 lbs/day
Chromium VI	18,633.29 ug/l	7.0 lbs/day	17,894.2	ug/l	10.4 lbs/day
Copper	61,141.06 ug/l	23.1 lbs/day	57,450.5	ug/l	33.5 lbs/day
Iron	N/A	N/A	#####	ug/l	867.3 lbs/day
Lead	32,053.08 ug/l	12.1 lbs/day	490,617.5	ug/l	286.4 lbs/day
Mercury	31.81 ug/l	0.0 lbs/day	3,570.6	ug/l	2.1 lbs/day
Nickel	##### ug/l	131.4 lbs/day	#####	ug/l	1031.2 lbs/day
Selenium	7,983.69 ug/l	3.0 lbs/day	27,391.0	ug/l	16.0 lbs/day
Silver	N/A ug/l	N/A lbs/day	37,249.1	ug/l	21.7 lbs/day

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Zinc	##### ug/l	304.0 lbs/day	452,028.0	ug/l	263.8 lbs/day
Cyanide	13,789.67 ug/l	5.2 lbs/day	32,730.5	ug/l	19.1 lbs/day

**Effluent Limitations for Heat/Temperature based upon
Water Quality Standards**

Summer	100.0 Deg. C.	212.0 Deg. F
Fall	100.0 Deg. C.	212.0 Deg. F
Winter	100.0 Deg. C.	212.0 Deg. F
Spring	100.0 Deg. C.	212.0 Deg. F

**Effluent Limitations for Organics [Pesticides]
Based upon Water Quality Standards**

In-stream criteria of downstream segments for Organics [Pesticides]
will be met with an effluent limit as follows:

	4 Day Average		1 Hour Average	
	Concentration	Load	Concentration	Load
Aldrin			1.5E+00 ug/l	1.35E-03 lbs/day
Chlordane	4.30E-03 ug/l	2.51E-03 lbs/day	1.2E+00 ug/l	1.08E-03 lbs/day
DDT, DDE	1.00E-03 ug/l	5.84E-04 lbs/day	5.5E-01 ug/l	4.97E-04 lbs/day
Dieldrin	1.90E-03 ug/l	1.11E-03 lbs/day	1.3E+00 ug/l	1.13E-03 lbs/day
Endosulfan	5.60E-02 ug/l	3.27E-02 lbs/day	1.1E-01 ug/l	9.93E-05 lbs/day
Endrin	2.30E-03 ug/l	1.34E-03 lbs/day	9.0E-02 ug/l	8.13E-05 lbs/day
Guthion	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02 ug/l	9.03E-06 lbs/day
Heptachlor	3.80E-03 ug/l	2.22E-03 lbs/day	2.6E-01 ug/l	2.35E-04 lbs/day
Lindane	8.00E-02 ug/l	4.67E-02 lbs/day	1.0E+00 ug/l	9.03E-04 lbs/day
Methoxychlor	0.00E+00 ug/l	0.00E+00 lbs/day	3.0E-02 ug/l	2.71E-05 lbs/day
Mirex	0.00E+00 ug/l	0.00E+00 lbs/day	1.0E-02 ug/l	9.03E-06 lbs/day
Parathion	0.00E+00 ug/l	0.00E+00 lbs/day	4.0E-02 ug/l	3.61E-05 lbs/day
PCB's	1.40E-02 ug/l	8.17E-03 lbs/day	2.0E+00 ug/l	1.81E-03 lbs/day
Pentachlorophenol	1.30E+01 ug/l	7.59E+00 lbs/day	2.0E+01 ug/l	1.81E-02 lbs/day
Toxephene	2.00E-04 ug/l	1.17E-04 lbs/day	7.3E-01 ug/l	6.59E-04 lbs/day

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**Effluent Targets for Pollution Indicators
Based upon Water Quality Standards**

In-stream criteria of downstream segments for Pollution Indicators will be met with an effluent limit as follows:

	1 Hour Average	
	Concentration	Loading
Gross Beta (pCi/l)	50.0 pCi/L	
BOD (mg/l)	5.0 mg/l	2.9 lbs/day
Nitrates as N	4.0 mg/l	2.3 lbs/day
Total Phosphorus as P	0.05 mg/l	0.0 lbs/day
Total Suspended Solids	90.0 mg/l	52.5 lbs/day

Note: Pollution indicator targets are for information purposes only.

**Effluent Limitations for Protection of Human Health [Toxics Rule]
Based upon Water Quality Standards (Most stringent of 1C or 3A & 3B as appropriate.)**

In-stream criteria of downstream segments for Protection of Human Health [Toxics] will be met with an effluent limit as follows:

	Maximum Concentration	
	Concentration	Load
Toxic Organics		
Acenaphthene	8.03E+06 ug/l	4.69E+03 lbs/day
Acrolein	2.32E+06 ug/l	1.35E+03 lbs/day
Acrylonitrile	1.96E+03 ug/l	1.15E+00 lbs/day
Benzene	2.11E+05 ug/l	1.23E+02 lbs/day
Benzidine	ug/l	lbs/day
Carbon tetrachloride	1.31E+04 ug/l	7.64E+00 lbs/day
Chlorobenzene	6.25E+07 ug/l	3.65E+04 lbs/day
1,2,4-Trichlorobenzene		
Hexachlorobenzene	2.29E+00 ug/l	1.34E-03 lbs/day
1,2-Dichloroethane	2.94E+05 ug/l	1.72E+02 lbs/day
1,1,1-Trichloroethane		
Hexachloroethane	2.65E+04 ug/l	1.55E+01 lbs/day
1,1-Dichloroethane		
1,1,2-Trichloroethane	1.25E+05 ug/l	7.29E+01 lbs/day
1,1,2,2-Tetrachloroethane	3.27E+04 ug/l	1.91E+01 lbs/day
Chloroethane		
Bis(2-chloroethyl) ether	4.16E+03 ug/l	2.43E+00 lbs/day
2-Chloroethyl vinyl ether		
2-Chloronaphthalene	1.28E+07 ug/l	7.47E+03 lbs/day
2,4,6-Trichlorophenol	1.93E+04 ug/l	1.13E+01 lbs/day
p-Chloro-m-cresol		
Chloroform (HM)	1.40E+06 ug/l	8.16E+02 lbs/day
2-Chlorophenol	1.19E+06 ug/l	6.94E+02 lbs/day
1,2-Dichlorobenzene	5.06E+07 ug/l	2.95E+04 lbs/day
1,3-Dichlorobenzene	7.73E+06 ug/l	4.51E+03 lbs/day

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1,4-Dichlorobenzene	7.73E+06 ug/l	4.51E+03 lbs/day
3,3'-Dichlorobenzidine	2.29E+02 ug/l	1.34E-01 lbs/day
1,1-Dichloroethylene	9.52E+03 ug/l	5.56E+00 lbs/day
1,2-trans-Dichloroethylene		
2,4-Dichlorophenol	2.35E+06 ug/l	1.37E+03 lbs/day
1,2-Dichloropropane	1.16E+05 ug/l	6.77E+01 lbs/day
1,3-Dichloropropylene	5.06E+06 ug/l	2.95E+03 lbs/day
2,4-Dimethylphenol	6.84E+06 ug/l	3.99E+03 lbs/day
2,4-Dinitrotoluene	2.71E+04 ug/l	1.58E+01 lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	1.61E+03 ug/l	9.38E-01 lbs/day
Ethylbenzene	8.63E+07 ug/l	5.03E+04 lbs/day
Fluoranthene	1.10E+06 ug/l	6.42E+02 lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	5.06E+08 ug/l	2.95E+05 lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	4.76E+06 ug/l	2.78E+03 lbs/day
Methyl chloride (HM)		
Methyl bromide (HM)		
Bromoform (HM)	1.07E+06 ug/l	6.25E+02 lbs/day
Dichlorobromomethane(HM)	6.54E+04 ug/l	3.82E+01 lbs/day
Chlorodibromomethane (HM)	1.01E+05 ug/l	5.90E+01 lbs/day
Hexachlorocyclopentadiene	5.06E+07 ug/l	2.95E+04 lbs/day
Isophorone	1.78E+06 ug/l	1.04E+03 lbs/day
Naphthalene		
Nitrobenzene	5.65E+06 ug/l	3.30E+03 lbs/day
2-Nitrophenol		
4-Nitrophenol		
2,4-Dinitrophenol	4.16E+07 ug/l	2.43E+04 lbs/day
4,6-Dinitro-o-cresol	2.28E+06 ug/l	1.33E+03 lbs/day
N-Nitrosodimethylamine	2.41E+04 ug/l	1.41E+01 lbs/day
N-Nitrosodiphenylamine	4.76E+04 ug/l	2.78E+01 lbs/day
N-Nitrosodi-n-propylamine	4.16E+03 ug/l	2.43E+00 lbs/day
Pentachlorophenol	2.44E+04 ug/l	1.42E+01 lbs/day
Phenol	1.37E+10 ug/l	7.99E+06 lbs/day
Bis(2-ethylhexyl)phthalate	1.75E+04 ug/l	1.02E+01 lbs/day
Butyl benzyl phthalate	1.55E+07 ug/l	9.03E+03 lbs/day
Di-n-butyl phthalate	3.57E+07 ug/l	2.08E+04 lbs/day
Di-n-octyl phthalate		
Diethyl phthalate	3.57E+08 ug/l	2.08E+05 lbs/day
Dimethyl phthalate	8.63E+09 ug/l	5.03E+06 lbs/day
Benzo(a)anthracene (PAH)	9.22E+01 ug/l	5.38E-02 lbs/day
Benzo(a)pyrene (PAH)	9.22E+01 ug/l	5.38E-02 lbs/day
Benzo(b)fluoranthene (PAH)	9.22E+01 ug/l	5.38E-02 lbs/day
Benzo(k)fluoranthene (PAH)	9.22E+01 ug/l	5.38E-02 lbs/day
Chrysene (PAH)	9.22E+01 ug/l	5.38E-02 lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		
Dibenzo(a,h)anthracene (PAH)	9.22E+01 ug/l	5.38E-02 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	9.22E+01 ug/l	5.38E-02 lbs/day

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Pyrene (PAH)	3.27E+07 ug/l	1.91E+04 lbs/day
Tetrachloroethylene	2.65E+04 ug/l	1.55E+01 lbs/day
Toluene	5.95E+08 ug/l	3.47E+05 lbs/day
Trichloroethylene	2.41E+05 ug/l	1.41E+02 lbs/day
Vinyl chloride	1.56E+06 ug/l	9.11E+02 lbs/day

Pesticides

Aldrin	4.16E-01 ug/l	2.43E-04 lbs/day
Dieldrin	4.16E-01 ug/l	2.43E-04 lbs/day
Chlordane	1.75E+00 ug/l	1.02E-03 lbs/day
4,4'-DDT	1.75E+00 ug/l	1.02E-03 lbs/day
4,4'-DDE	1.75E+00 ug/l	1.02E-03 lbs/day
4,4'-DDD	2.50E+00 ug/l	1.46E-03 lbs/day
alpha-Endosulfan	5.95E+03 ug/l	3.47E+00 lbs/day
beta-Endosulfan	5.95E+03 ug/l	3.47E+00 lbs/day
Endosulfan sulfate	5.95E+03 ug/l	3.47E+00 lbs/day
Endrin	2.41E+03 ug/l	1.41E+00 lbs/day
Endrin aldehyde	2.41E+03 ug/l	1.41E+00 lbs/day
Heptachlor	6.25E-01 ug/l	3.65E-04 lbs/day
Heptachlor epoxide		

PCB's

PCB 1242 (Arochlor 1242)	1.34E-01 ug/l	7.81E-05 lbs/day
PCB-1254 (Arochlor 1254)	1.34E-01 ug/l	7.81E-05 lbs/day
PCB-1221 (Arochlor 1221)	1.34E-01 ug/l	7.81E-05 lbs/day
PCB-1232 (Arochlor 1232)	1.34E-01 ug/l	7.81E-05 lbs/day
PCB-1248 (Arochlor 1248)	1.34E-01 ug/l	7.81E-05 lbs/day
PCB-1260 (Arochlor 1260)	1.34E-01 ug/l	7.81E-05 lbs/day
PCB-1016 (Arochlor 1016)	1.34E-01 ug/l	7.81E-05 lbs/day

Pesticide

Toxaphene	2.23E+00 ug/l	1.30E-03 lbs/day
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Metals

Antimony	ug/l	lbs/day
Arsenic	ug/l	lbs/day
Asbestos	ug/l	lbs/day
Beryllium		
Cadmium		
Chromium (III)		
Chromium (VI)		
Copper	ug/l	lbs/day
Cyanide	ug/l	lbs/day
Lead		
Mercury	ug/l	lbs/day
Nickel	ug/l	lbs/day
Selenium		
Silver		
Thallium	ug/l	lbs/day
Zinc		

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Dioxin		
Dioxin (2,3,7,8-TCDD)	4.16E-05 ug/l	2.43E-08 lbs/day

**Metals Effluent Limitations for Protection of All Beneficial Uses
Based upon Water Quality Standards and Toxics Rule**

	Class 4 Acute Agricultural ug/l	Class 3 Acute Aquatic Wildlife ug/l	Acute Toxics Drinking Water Source ug/l	Acute Toxics Wildlife ug/l	1C Acute Health Criteria ug/l	Acute Most Stringent ug/l	Class 3 Chronic Aquatic Wildlife ug/l
Aluminum		1112265.5				1112265.5	N/A
Antimony				#####		#####	
Arsenic	297449.7	504652.5			0.0	297449.7	501745.9
Barium						0.0	
Beryllium						0.0	
Cadmium	29508.6	9577.1			0.0	9577.1	1408.8
Chromium (III)		6594623.1			0.0	6594623.1	559828.9
Chromium (VI)	295085.8	17894.2			0.0	17894.15	18633.29
Copper	592535.5	57450.5				57450.5	61141.1
Cyanide		32730.5	#####			32730.5	13789.7
Iron		1485890.1				1485890.1	
Lead	295085.8	490617.5			0.0	295085.8	32053.1
Mercury		3570.59		446.17	0.0	446.17	31.806
Nickel		1766792.7		#####		1766792.7	348262.2
Selenium	143997.0	27391.0			0.0	27391.0	7983.7
Silver		37249.1			0.0	37249.1	
Thallium				18739.3		18739.3	
Zinc		452028.0				452028.0	805724.1
Boron	2230872.8					2230872.8	

Summary Effluent Limitations for Metals [Wasteload Allocation, TMDL]

[If Acute is more stringent than Chronic, then the Chronic takes on the Acute value.]

	WLA Acute ug/l	WLA Chronic ug/l	
Aluminum	1112265.5	N/A	
Antimony	#####		
Arsenic	297449.7	501745.9	Acute Controls
Asbestos	0.00E+00		
Barium			
Beryllium			
Cadmium	9577.1	1408.8	
Chromium (III)	6594623.1	559829	
Chromium (VI)	17894.2	18633.3	Acute Controls
Copper	57450.5	61141.1	Acute Controls

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Cyanide	32730.5	13789.7	
Iron	1485890.1		
Lead	295085.8	32053.1	
Mercury	446.175	31.806	
Nickel	1766792.7	348262	
Selenium	27391.0	7983.7	
Silver	37249.1	N/A	
Thallium	18739.3		
Zinc	452028.0	805724.1	Acute Controls
Boron	#####		

Other Effluent Limitations are based upon R317-1.

E. coli 126.0 organisms per 100 ml

X. Antidegradation Considerations

The Utah Antidegradation Policy allows for degradation of existing quality where it is determined that such lowering of water quality is necessary to accommodate important economic or social development in the area in which the waters are protected [R317-2-3]. It has been determined that certain chemical parameters introduced by this discharge will cause an increase of the concentration of said parameters in the receiving waters. Under no conditions will the increase in concentration be allowed to interfere with existing instream water uses.

The antidegradation rules and procedures allow for modification of effluent limits less than those based strictly upon mass balance equations utilizing 100% of the assimilative capacity of the receiving water. Additional factors include considerations for "Blue-ribbon" fisheries, special recreational areas, threatened and endangered species, and drinking water sources.

An Antidegradation Level I Review was conducted on this discharge and its effect on the receiving water. Based upon that review, it has been determined that an **increase in permitted flow or concentration.**

XI. Colorado River Salinity Forum Considerations

Discharges in the Colorado River Basin are required to have their discharge at a TDS loading of less than 1.00 tons/day unless certain exemptions apply. Refer to the Forum's Guidelines for additional information allowing for an exceedence of this value.

XII. Summary Comments

The mathematical modeling and best professional judgement indicate that violations of receiving water beneficial uses with their associated water quality standards, including important downstream segments, will not occur for the evaluated parameters of concern as discussed above if the effluent limitations indicated above are met.

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XIII. Notice of UPDES Requirement

This Addendum to the Statement of Basis does not authorize any entity or party to discharge to the waters of the State of Utah. That authority is granted through a UPDES permit issued by the Utah Division of Water Quality. The numbers presented here may be changed as a function of other factors. Dischargers are strongly urged to contact the Permits Section for further information. Permit writers may utilize other information to adjust these limits and/or to determine other limits based upon best available technology and other considerations provided that the values in this wasteload analysis [TMDL] are not compromised. See special provisions in Utah Water Quality Standards for adjustments in the Total Dissolved Solids values based upon background concentration.

XIV. Special Considerations - TMDL

The Corinne Lagoons discharge to a segment of the Bear River that is 303(d) listed for total phosphorous (TP). A TP TMDL was completed for the Bear River on September 9th, 2002. The TMDL indicated that the three point sources in this segment, Corinne, Bear River and Tremonton cities, accounted for approximately 3% of the total phosphorous load to the Lower Bear River. The remaining 97% is attributed to nonpoint sources. Given that the non-point source TP loads overshadow the point source contributions, the time-frame for including TP effluent limits for the small towns of Bear River City, Tremonton and Corinne is not urgent. The Division of Water Quality recently completed a TMDL for Cutler Reservoir (immediately upstream of the lower Bear River segment). Following completion of the Cutler Reservoir TMDL, the Lower Bear River TMDL will be redone. The updated Lower Bear River TMDLs will include an implementation strategy for addressing point source loads from the three wastewater treatment plants in the context of the larger nonpoint source issues in the watershed.

The Corinne Lagoons discharge to a segment of the Bear River that is 303(d) listed for total dissolved solids (TDS). No assimilative capacity exists for this pollutant. Effluent limit equals the water quality standard.

Prepared by:
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Utah Division of Water Quality
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File Name: Corrine_WLA_2-25-15.xls

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APPENDIX - Coefficients and Other Model Information

CBOD Coeff. (Kd)20 1/day 0.830	CBOD Coeff. FORCED (Kd)/day 0.000	CBOD Coeff. (Ka)T 1/day 0.570	REAER. Coeff. (Ka)20 (Ka)/day 3.552	REAER. Coeff. FORCED 1/day 0.000	REAER. Coeff. (Ka)T 1/day 2.924	NBOD Coeff. (Kn)20 1/day 0.400	NBOD Coeff. (Kn)T 1/day 0.213
Open Coeff. (K4)20 1/day 0.000	Open Coeff. (K4)T 1/day 0.000	NH3 LOSS (K5)20 1/day 4.000	NH3 (K5)T 1/day 2.745	NO2+NO3 LOSS (K6)20 1/day 0.000	NO2+NO3 (K6)T 1/day 0.000	TRC Decay K(CI)20 1/day 32.000	TRC K(CI)(T) 1/day 19.845
BENTHIC DEMAND (SOD)20 gm/m2/day 1.000	BENTHIC DEMAND (SOD)T gm/m2/day 0.597						
K1 CBOD {theta} 1.0	K2 Reaer. {theta} 1.0	K3 NH3 {theta} 1.1	K4 Open {theta} 1.0	K5 NH3 Loss {theta} 1.0	K6 NO2+3 {theta} 1.0	K(CI) TRC {theta} 1.1	S Benthic {theta} 1.1

